

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled).

2. (Currently Amended) A system comprising:

a plurality of loud speakers that emit intelligibility test signals throughout a region;

a plurality of fixedly mountable microphones that receive audio input corresponding to the intelligibility test signals based upon their respective physical relationship with the members of the plurality of speakers;

circuits coupled to respective microphones including circuitry that automatically detects a received signal at a predetermined time, analyzes the received signal by comparing a depth of modulation thereof with a test signal in each of a plurality of frequency bands, evaluates intelligibility of audio received by the respective microphones based upon the comparative depth of modulation where reduction in modulation depth of the received signal is associated with loss of intelligibility and generates an indicator of intelligibility on a per microphone basis, the circuits each include a network output port and which includes a plurality of ambient condition detectors with at least some of microphones carried by respective ones of the detectors.

3. (Original) A system as in claim 2 where at least some of the circuits are carried by respective ones of the detectors coupled to respective microphones also carried by the same detector.

4. (Currently amended) A system comprising:

a plurality of audio output devices that audibly produce speech intelligibility test signals throughout an associated geographic region;

a plurality of fixedly mountable microphones, each of the microphones is capable of receiving audio corresponding to the speech intelligibility test signals in an the associated geographic region in which that microphone is located based upon the physical relationship of the microphone with respective members of the plurality of audio output devices;

circuits coupled to respective microphones including circuitry that automatically detects a received signal at a predetermined time, that analyzes the received signal by comparing a depth of modulation thereof with a test signal in each of a plurality of frequency bands, that evaluates intelligibility of audio received by the respective microphones based upon the comparative depth of modulation where reduction in modulation depth of the received signal is associated with loss of intelligibility and that generates an indicator of intelligibility on a per microphone basis, the circuits each include a network output port and circuitry that produces prestored speech intelligibility test signals; and

~~at least one audio output device which is separate from the microphones and which audibly produces the speech intelligibility test signals which will be received by the microphones.~~

5. (Currently Amended) A system as in claim 4 which includes control circuits coupled to the microphones and the audio output ~~device~~ devices, the control circuits couple electrical representations of the speech intelligibility test signals to the output device.

6. (Currently Amended) A system as in claim 5 which includes ~~a plurality~~ the plurality of audio output devices coupled the control circuits.

7. (Currently amended) A system comprising:
a plurality of loud speakers that emit intelligibility test signals throughout an associated region;

a plurality of fixedly mountable microphones, each of the microphones is capable of receiving audio corresponding to the intelligibility test signals in an the associated geographic region in which that microphone is located based upon a physical relationship of the microphone with respective loud speakers of the plurality of loud speakers;

circuits coupled to respective microphones including circuitry that automatically detects a received signal of the intelligibility test signals at a predetermined time, analyzes the received signal by comparing a depth of modulation thereof with a test signal in each of a plurality of frequency bands, evaluates intelligibility of audio received by the respective microphones based upon the comparative depth of modulation where reduction in modulation depth of the received signal is associated with loss of intelligibility and generates an indicator of intelligibility on a per microphone basis, the circuits each include a network output port; and

a plurality of distributed detectors of airborne ambient conditions.

8. (Previously presented) A system as in claim 7 where at least some of the detectors carry respective ones of the microphones and the detectors are selected from a class which includes smoke detectors and gas detectors.

9. (Currently amended) A system comprising:
a plurality of loud speakers that emit intelligibility test signals throughout an associated region;

a plurality of fixedly mountable microphones, each of the microphones is capable of receiving audio corresponding to the intelligibility test signals in ~~an~~ the associated geographic region in which that microphone is located based upon a physical relationship of the microphone with respective loud speakers of the plurality of loud speakers;

circuits coupled to respective microphones including circuitry that automatically detects a received signal of the intelligibility test signals at a predetermined time, analyzes the received signal by comparing a depth of modulation thereof with a test signal in each of a plurality of frequency bands, evaluates intelligibility of audio received by the respective microphones based upon the comparative depth of modulation where reduction in modulation depth of the received signal is associated with loss of intelligibility and generates an indicator of intelligibility on a per microphone basis, the circuits each include a network output port and control circuits which include at least one of logic or executable instructions for producing speech intelligibility test signals to be audibly output by at least one audio output device that is separate from the microphones.

10. (Original) A system as in claim 9 which includes additional logic or executable instructions for processing the speech intelligibility test signals received from the respective microphones.

11. (Currently amended) A method comprising:
automatically generating and providing at least one machine generated speech intelligibility test signal via a plurality of loud speakers throughout a region at a predetermined time;

automatically sensing the speech intelligibility test signal in ~~at least one~~ a plurality of fixed locations based upon a physical relationship of each of the fixed locations with respective loud speakers of the plurality of loud speakers at the predetermined time;

detecting the sensed signal, analyzing the detected signal by comparing a depth of modulation thereof with the test signal in each of a plurality of frequency bands, and

evaluating the intelligibility of the sensed speech intelligibility test signal based upon the comparative depth of modulation where reduction in modulation depth of the sensed test signal is associated with loss of intelligibility.

12. (Original) A method as in claim 11 which includes generating a plurality of speech intelligibility test signals.

13. (Original) A method as in claim 11 which includes sensing the speech intelligibility test signal at a plurality of spaced apart, fixed locations.

14. (Original) A method as in claim 13 which includes:
transmitting the sensed speech intelligibility test signal from the plurality of locations to a common site and then processing same to evaluate intelligibility thereof.

15. (Original) A method as in claim 14 where the processing at the common site includes visually presenting processing results.

16. (Original) A method as in claim 14 where the sensed speech intelligibility test signals receive initial processing prior to being coupled to the common site.

17. (Original) A method as in claim 16 with the initial processing conducted on a per location basis and where initially processed results are each indicative of intelligibility of received audio.

18. (Currently amended) An apparatus comprising:
at least one a plurality of ambient airborne condition sensors;
respective control circuits coupled to each of the sensors;
a plurality of loud speakers that emit intelligibility test signals throughout an associated region; and
a respective microphone associated with each of the ambient airborne condition sensors that receives signals corresponding to the intelligibility test signal at audible frequencies coupled to the control circuits, where the control circuits automatically detect received signals based upon a physical relationship of the microphone to respective loud speakers of the plurality of loud speakers at a predetermined time, analyze the received signals by comparing a depth of modulation thereof with a test signal in each of a plurality of frequency bands, and establish an intelligibility index based upon the comparative depth of modulation in response to signals from the microphone where reduction in modulation depth of the received signals is associated with loss of intelligibility.

19. (Original) An apparatus as in claim 18 which provides at least one port for connection of external microphones.

20. (Original) An apparatus as in claim 18 which includes a network communications port.

21. (Original) An apparatus as in claim 20 where the intelligibility index comprises at least one of STI, RASTI, SII, or, a subset of one of STI, RASTI, SII.

22. (Previously presented) An apparatus as in claim 18 where the ambient condition sensor comprises at least one of a smoke sensor, a flame sensor or a gas sensor.

23. (Original) An apparatus as in claim 22 where the control circuits include a processor with logic or executable instructions for carrying out intelligibility index processing.

24. (Original) An apparatus as in claim 23 which includes a network communications port, the port facilitating coupling electrical energy to at least the control circuits, and coupling intelligibility indices at least from the control circuits to a medium.

25. (Original) An apparatus as in claim 24 where the communications port includes an interface for carrying out bi-directional communication via a medium.

26. (Original) An apparatus as in claim 25 where the interface includes circuits coupled to at least one of an electrical cable or an optical cable.

27-31. (Cancelled).

32. (Currently amended) A system comprising:
control circuits for automatically producing prestored electrical representations of speech intelligibility test signals at a predetermined time;

~~at least one~~ a plurality of audible output devices coupled to the control circuits to audibly emit the speech intelligibility test signals throughout an associated geographic region;

a plurality of spaced apart acoustic sensors, each of the acoustic sensors is capable of receiving audio corresponding to the speech intelligibility test signals in an the associated geographic region in which that acoustic sensor is located based upon a physical relationship of each of the plurality of spaced apart acoustic sensors to respective audible output devices of the plurality of audio output devices; and

circuits coupled to respective acoustic sensors including circuitry that automatically detects the received audio at the predetermined time, analyzes the received audio by comparing a depth of modulation thereof with a test signal in each of a plurality of frequency bands, evaluates

intelligibility of audio audible test signals received by the respective acoustic sensors based upon the comparative depth of modulation where reduction in modulation depth of the received audio is associated with loss of intelligibility and generates an indicator of intelligibility on a per acoustic sensor basis, wherein the at least one audible output device is separate from the acoustic sensors.

33-35. (Cancelled).

36. (Previously presented) A system as in claim 32 which includes a plurality of distributed ambient condition detectors.

37. (Currently amended) A system comprising:
control circuits for producing electrical representations of speech intelligibility test signals;

~~at least one~~ a plurality of audible output devices coupled to the control circuits to automatically audibly emit the speech intelligibility test signals throughout a region at a predetermined time;

a plurality of spaced apart acoustic sensors, the acoustic sensors ~~can~~ receive the speech intelligibility test signals based upon a physical relationship of each of the spaced apart acoustic sensors with respective audible output devices of the plurality of audible output devices;

circuits coupled to respective acoustic sensors including circuitry that automatically detects the received signals at the predetermined time, analyze the received signals by comparing a depth of modulation with the test signals in each of a plurality of frequency bands, evaluate intelligibility of audio received by the respective acoustic sensors based upon the comparative depth of modulation where reduction in modulation depth of the received signals is associated with loss of intelligibility and generate an indicator of intelligibility on a per acoustic sensor basis; and

a plurality of smoke detectors, where at least some of the detectors carry respective ones of acoustic sensors.

38. (Previously presented) A system as in claim 32 where the control circuits include executable instructions for producing speech intelligibility test signals to be audibly output by the at least one audio output device.

39. (Previously presented) A system as in claim 38 which includes additional executable instructions for processing the speech intelligibility test signals received from the respective sensors.

40. (Currently amended) An apparatus comprising:
a source of pre-stored intelligibility test signals;
a plurality of loud speakers coupled to the source so as to broadcast selected test signals throughout an associated region at a predetermined time;
a plurality of microphones which are separate from the plurality of loud speakers and which receive at least some of the broadcast test signals, each of the microphones in the plurality is capable of receiving audio in ~~an~~ the associated geographic region in which that microphone is located based upon a physical relationship of each of the plurality of microphones with respective loud speakers of the plurality of loud speakers; and
at least one detection circuit coupled to a respective microphone that automatically detects the received signals at the predetermined time, analyzes the received signals by comparing a depth of modulation thereof with the broadcast test signal in each of a plurality of frequency bands, generates a speech intelligibility indicium associated with the respective microphone based upon the comparative depth of modulation where reduction in modulation depth of the received signals is associated with loss of intelligibility and that transmits that indicium via a medium to a displaced site.

41. (Previously presented) An apparatus as in claim 40 which includes;
a plurality of smoke detectors where at least one microphone is carried by a respective detector and coupled thereto.